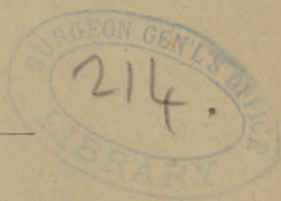


*Erich (A. F.)*

*Compliments of*  
*A. F. Erich*  
AN IMPROVED

SELF-RETAINING RECTAL AND VAGINAL

SPECULUM.



✓  
BY A. F. ERICH, M.D.,

Professor of Diseases of Women, College of Physicians and Surgeons,  
Baltimore; Surgeon in Charge of the Maryland  
Woman's Hospital, etc., etc.

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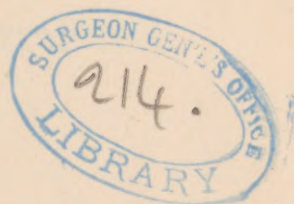
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## AN IMPROVED SELF-RETAINING RECTAL AND VAGINAL SPECULUM.

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By A. F. ERICH, M.D.,

Professor of Diseases of Women, College of Physicians and Surgeons, Baltimore ;  
Surgeon in Charge of the Maryland Women's Hospital, etc.

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THE almost universal dissatisfaction of surgeons with the hitherto available means of inspecting the mucous membrane of the rectum is well voiced by Prof. F. H. Hamilton, in the following words :

"Surgeons have invented a number of instruments for the purpose of inspecting the interior of the anus and rectum ; but none of them possess very much value. The rectum expands suddenly above the internal sphincter, and it is impossible with any speculum to bring into view the walls of the canal above this point, unless they happen to be thrust downward in the direction of the anal aperture ;"<sup>1</sup> and Mr. Allingham says that none of the many varieties of rectal specula are, "in his humble opinion, of any general or great interest."<sup>2</sup>

The many annoying failures which I experienced with the various valvular and fenestrated specula, in operations about the rectum, led me some years ago to endorse most heartily the opinion of Hamilton and Allingham, as expressed above.

Having exclusively employed during the twelve years a form of the speculum figured in the accompany wood-cut (Fig. 1) for the purpose of exposing the vagina and cervix uteri, it occurred to me that the same in-

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1. Principles and Practice of Surgery, New York, 1872, p. 771.

2. Diseases of the Rectum, etc.; second edition. Philadelphia, 1873, p. 21.

strument ought to answer the purposes of rectal specula as well. At first I frequently failed to secure a proper exposure on account of the anterior wall of the rectum falling into the field of view. This difficulty was, however, finally obviated by the use of a large ball of cotton which was pushed up into the rectum, just above the upper end of the speculum. This plugging of the rectum serves two important purposes: it keeps the anterior wall of the rectum on the stretch, thus removing the objection just mentioned; and it acts as an effectual tampon against the escape of liquid feces during the operation.

But there remained one defect in the unmodified form of the instrument when used as a rectal speculum;—the posterior surface of the rectum could not be exposed. This defect has now been removed by dividing the blade and making the two halves laterally expansible.

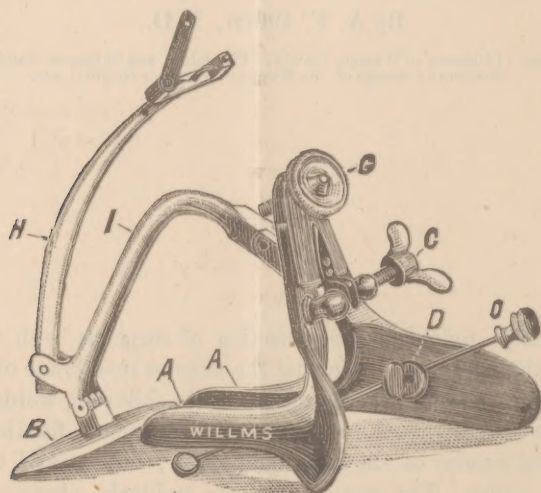


FIG. 1.—The Improved Self-retaining Rectal and Vaginal Speculum.

The instrument consists of a Sims' duck-bill retractor, A. A., Fig. 1, made dilatable by dividing the blade into two lateral halves. The expansion is equal on both sides, this motion being secured by a right and left screw C., working on a fixed centre. Between the two half-blades, when brought together as near as their construction will permit, there remains a cleft about one-tenth of an inch wide. This is to prevent the clamping or pinching of the mucous membrane in removing the instrument, which is one of the greatest defects in all other valvular rectal specula. The retractor is secured to an L-shaped lever, I. H., acting against a fulcrum-plate B., placed on the angle of the lever.

This lever and the strap, L., Fig. 2, are for the purpose of holding the speculum in position when introduced into the rectum or vagina.

The speculum may be used in the genu-pectoral position, as shown in Fig. 2; but is preferably used in Sims' left latero-prone position, this being more comfortable to the patient, as well as more convenient to the operator.

To expose the mucous surface of the rectum, the instrument is introduced as follows:

The loop of the strap L., Fig. 2, is slipped over the head and under the right arm of the patient, who is then placed in the desired position. The retractor, AA., is oiled and introduced upon the right index-finger also oiled. The finger should be pressed well up into the cleft between the two lateral halves of the blade, and the tip of the finger should slightly precede the instrument. The blade must be well pressed against the posterior wall of the rectum, and fixed in the desired position by the screw, G. The fulcrum-plate, B., is then brought down over the middle of the sacrum, and the posterior rectal wall retracted by extending and drawing upon the lever, H. When sufficient retraction is obtained, the strap is drawn tight and hooked into the teeth at the upper end of the lever.

A cotton tampon, secured by a piece of twine to facilitate its removal, is then pushed up into the rectum to just above the upper end of the blade.

With the aid of this instrument I have performed some of the most difficult operations about the rectum and anus. I have used it in closing recto-vaginal fistula from the rectal side, in two cases, with very excellent results. It has also facilitated the removal of a large rectal polypus. For the exposure and treatment of ulcers of the rectum it is also very well adapted.

It is not suitable for exposing internal hemorrhoids situated very near the anus, as they are rendered unrecognizable by the tension of the mucous membrane.

As above stated, the same instrument has been used, in a less complete form, for the last twelve years, as a vaginal speculum, and has, I believe, given entire satisfaction to every one who has used it. The following directions should be observed when using the improved instrument as a vaginal speculum.

The patient is placed upon a table in front of a window giving good light. The left lateral semi-prone position of Sims is the least disagreeable to the patient and most convenient to the operator. Now oil the duck-bill retractor AA., and introduce it upon the index finger of the right hand, carrying it along the posterior wall of the vagina as far back as possible, then press its tip with the finger in the vagina towards the sacrum as far as the parts will yield to gentle pressure, and use the screw, G., to secure it in the position thus attained. By means of the dilating screw, C., the lateral half-blades are then separated as widely as necessary to secure ample distention of the vagina for any operation it may be desired to perform. Then place the fulcrum-plate, B., over the centre of the sac-

rum and draw upon the lever, H., until the perineum is sufficiently retracted, and fix it in that position by attaching the strap, L., Fig. 2, to the hooks at the upper end of the lever. The little guard plate shown in the wood-cut is intended to cover the steel hooks when the instrument is not in use, to protect the fingers of the operator against accidental scratching. Should there be lateral version of the uterus, the instrument can be adjusted to any lateral angle by simply shifting the fulcrum-plate, B., to one side or the other.



FIG. 2.—Showing Speculum in Position.

The uterus may be fixed in any desired position by tightening the screw, D., of the adjustable depressor, O. The depressor has a sliding as well as rotary motion, and can be detached from the speculum by a few turns of the same screw in the opposite direction, and may then be used with the hand as any other depressor.

Should the posterior wall of the vagina be shorter than usual, it may become necessary to loosen the screw G, a turn or two, to allow the cervix to come forward into the field of vision. If the speculum has not been inserted deep enough into the vagina, the posterior wall will prolapse in front of the cervix. The strap ought then to be detached, and the speculum pushed up far enough to get its tip behind the cervix. While the use of the depressor is only occasionally required in the knee position, it is generally required in the lateral position, to bring the cervix into view by gentle traction made with it upon the anterior wall of the vagina. The knee position is used when examining for ulcers or excoriations of the vagina, as in this position the vagina becomes distended like a balloon, enabling the operator to inspect the whole of its interior surface simultane-

ously. This position is represented in the wood-cut; the patient's back ought to be curved downward, her knees separated about eight or ten inches, and her thighs to be at right angles with the table upon which she is kneeling. To expose that portion of the posterior surface of the vagina which is generally covered by the speculum, the half-blades are separated by means of the dilating screw, C. Nearly the entire floor of the vagina can thus be exposed and rendered accessible to treatment.

In operations about the neck of the uterus, and in other cases where it is desired to bring the os near to the vulvar opening, or where the vagina is abnormally reduced in size, the speculum may be shortened by sliding the fulcrum-plate, B., lower down on the sacrum. In this case the fulcrum-plate must be placed directly on the skin to prevent its slipping; if any of the underclothing intervene between the skin and metal plate, the latter will slip upward when the lever, H., is drawn upon.

The special points in favor of this instrument, when compared with all the tubular and other valvular specula, are the following:

1. Its introduction is less difficult, and less apt to be painful.
2. It permits the operator to draw the uterus forward in a line with the axis of the vagina, so that he may touch the cervix, and even explore the interior of the cervical canal with his finger, with the speculum *in situ*, while the other varieties have a tendency to push the uterus deeper into the pelvis, and consequently beyond the reach of the finger.
3. The force necessary for the retraction of the perineum is exerted upon the shoulder, not against the sharp bony edge of the pubic arch, as is the case in a number of other specula. It can, therefore, be used without pain in the most muscular subject, and enables us to retract the perineum to its fullest extent.
4. It exposes simultaneously a larger surface of the vagina, and enables us to operate through a larger and more yielding orifice, so that it may be even used to facilitate the introduction of pessaries.
5. It answers for all the different recto-vaginal or uterine operations in which a speculum is required, while all the others necessitate the possession of a variety of specula.

When compared with Sims' speculum, the points in its favor are that it affords all the superior advantages of this instrument, and is free of its principal objection—the necessity of a skilled assistant—as it accomplishes, by means of a very simple mechanism, all that an assistant can do, with Sims' speculum.

It follows all the motions of the patient, never losing its relative position to her body, in consequence of which it is even superior to Sims' speculum held by a skillful assistant, especially during tedious operations, as it then frequently becomes necessary for the operator to put down his instruments and correct the position of the speculum with his own hands, because he

finds it next to impossible to convey to the assistant a description of the required position by any other means.

The dilating attachment renders it unnecessary to have different sizes of the blades.

The instrument is made by Mr. C. Willms, 79 N. Howard St., Baltimore, to whose practical ingenuity and excellent workmanship I have been greatly indebted in carrying out the mechanical details involved in its construction.





